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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/078,726	ISHIBASHI ET AL.
	Examiner	Art Unit
	Salman Ahmed	2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>2/29/02 (Claims)</u>.
2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-48</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-29,31 and 33-48</u> is/are rejected.
7)☐ Claim(s) <u>30 and 32</u> is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>19 February 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.　　The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.　　Claims 11, 12, 14-17, 21- 25 are rejected under 35 U.S.C. 102(e) as being

anticipated by Bantz et al. (US PAT 5519706), hereinafter referred to as Bantz.

　　In regards to claim 11, Bantz anticipates a communication setup method for an

electronic device (figure 1, column 4 line 42, mobile stations 6, 8, 10, 12, 14 and 16)

having wireless communication interface (figure 1a element 42, transceiver) employing

wireless communications, the steps of: acquiring a beacon frame via wireless

communications (column 9 lines 25-27, reception of a header section 400); and

comprising comparing information of the beacon frame with connection setups of a

plurality of wireless communication devices (column 9 lines 27-29, registering mobile

station 8 checks, that the network identifier 466 carried in header section 400 matches

the network identifier NETid stored in parameter 212); and establishing wireless

communication with at least one of the plurality of wireless communication devices

based on a communication setup, when the information of the beacon frame matches at

least one of the connection setups of the plurality of wireless communication devices (column 9 line 58-67 and column 10 lines 1-4, following the base station selection step the registering mobile station locks into the selected base station frequency hopping pattern as described in function block 590 by listening again to randomly selected frequencies until it receives a header section 400 from the selected base station. It locks into the selected base station frequency hopping pattern by storing in data storage 68 of transceiver adapter 44 the frequencies of the next four hops provided in field 468 of the header section 400. Next the registering mobile station stores the base station HDLC address 430 carried by the header section 400 in addressing parameter 214 and sends a registration request to the selected base station by using the protocol information provided by header section 400 concerning the duration of B and C intervals durations).

In regards to claim 16, Bantz anticipates a communication setup method for an electronic device (figure 1, column 4 line 42, mobile stations 6, 8, 10, 12, 14 and 16) employing wireless communications, comprising the steps of: acquiring, via wireless communications, a first beacon frame (column 9 lines 25-27, reception of a header section 400) transmitted by a first wireless communication device and a second beacon frame transmitted by a second wireless communication device (column 9 lines 51-55, the process is repeated until N random frequencies have been listened to and is followed by a base station selection step 580 taking into account the strength of the signal received from each one of the owner base station candidates); comparing information of the first beacon frame with a first connection setup of a wireless

communication device (column 9 lines 27-29, registering mobile station 8 checks, that

the network identifier 466 carried in header section 400 matches the network identifier

NETid stored in parameter 212); establishing wireless communication with the second

wireless communication device based on a first communication setup, when the

information of the second beacon frame matches the first connection setup (column 9

line 58-67 and column 10 lines 1-4, following the base station selection step the

registering mobile station locks into the selected base station frequency hopping pattern

as described in function block 590 by listening again to randomly selected frequencies

until it receives a header section 400 from the selected base station. It locks into the

selected base station frequency hopping pattern by storing in data storage 68 of

transceiver adapter 44 the frequencies of the next four hops provided in field 468 of the

header section 400. Next the registering mobile station stores the base station HDLC

address 430 carried by the header section 400 in addressing parameter 214 and sends

a registration request to the selected base station by using the protocol information

provided by header section 400 concerning the duration of B and C intervals durations).

In regards to claims 12 and 17 Bantz anticipates the connection setups

respectively contain identifiers of the plurality of wireless communication devices. (figure

6, element 620)

In regards to claim 21 Bantz anticipates when reception of the second beacon

frame from the second wireless communication device (column 9 lines 25-27, reception

of a header section 400) does not meet predetermined criteria (column 9 lines 27-29,

registering mobile station 8 checks, that the network identifier 466 carried in header

section 400 matches the network identifier NETid stored in parameter 212), acquiring

the first beacon frame via wireless communications (column 9 lines 25-27, reception of

a header section 400); comparing the information of the first beacon frame with a

second connection setup (column 9 lines 27-29, registering mobile station 8 checks,

that the network identifier 466 carried in header section 400 matches the network

identifier NETid stored in parameter 212); and establishing wireless communication with

the first frame with a second connection setup; and establishing wireless

communication with the first wireless communication device based on a second

communication setup, when the information of the first beacon frame matches the

second connection setup (column 9 line 58-67 and column 10 lines 1-4, following the

base station selection step the registering mobile station locks into the selected base

station frequency hopping pattern as described in function block 590 by listening again

to randomly selected frequencies until it receives a header section 400 from the

selected base station. It locks into the selected base station frequency hopping pattern

by storing in data storage 68 of transceiver adapter 44 the frequencies of the next four

hops provided in field 468 of the header section 400. Next the registering mobile station

stores the base station HDLC address 430 carried by the header section 400 in

addressing parameter 214 and sends a registration request to the selected base station

by using the protocol information provided by header section 400 concerning the

duration of B and C intervals durations).

In regards to claim 22, Bantz anticipates when reception of the second beacon

frame from the second wireless communication device (column 9 lines 25-27, reception

of a header section 400) does not meet predetermined criteria (column 9 lines 27-29,

registering mobile station 8 checks, that the network identifier 466 carried in header

section 400 matches the network identifier NETid stored in parameter 212), acquiring

the third beacon frame via wireless communications (column 9 lines 25-27, reception of

a header section 400); comparing the information of the third beacon frame with a third

connection setup (column 9 lines 27-29, registering mobile station 8 checks, that the

network identifier 466 carried in header section 400 matches the network identifier

NETid stored in parameter 212); and establishing wireless communication with the third

wireless communication device based on a third communication setup, when the

information of the third beacon frame matches the third connection setup (column 9 line

58-67 and column 10 lines 1-4, following the base station selection step the registering

mobile station locks into the selected base station frequency hopping pattern as

described in function block 590 by listening again to randomly selected frequencies until

it receives a header section 400 from the selected base station. It locks into the

selected base station frequency hopping pattern by storing in data storage 68 of

transceiver adapter 44 the frequencies of the next four hops provided in field 468 of the

header section 400. Next the registering mobile station stores the base station HDLC

address 430 carried by the header section 400 in addressing parameter 214 and sends

a registration request to the selected base station by using the protocol information

provided by header section 400 concerning the duration of B and C intervals durations).

In   regards   to   claims   14,   15,   23-25   Bantz   anticipates   the

connection/communication setup being stored in a storage device associated with the

electronic device (figure 2, element 68 and column 7 lines 32-34, each mobile station

stores in the data storage 68 of its transceiver adapter 44 a set of four addressing

parameters).

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

3.   Claims 1, 2, 7-9, 33, 41 and 42 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bantz in view of Rypinski (US PAT 5461627).

In regards to claims 1, 33 and 41 Bantz teaches a communication setup method/means for an electronic device (figure 1, column 4 line 42, mobile stations 6, 8, 10, 12, 14 and 16) having wireless communication interface (figure 1a element 42, transceiver) employing wireless communications, comprising the steps of: outputting, via wireless communications from the electronic device, first connection request signal (column 10 line 2, registration request) based on a connection setup (column 7 line 32-42, a set of four addressing parameters 210 comprising: parameter 212 representing the identifier (NETid) of the logical network the mobile station belongs .to, parameter 214 representing the HDLC address (BASE@) of the owner base station controlling the network cell of the mobile station, parameter 216 representing the mobile station HDLC address (HDLC@) and parameter 218 representing the Universally Administered MAC address (MAC@) of the mobile station) with a first wireless communication device (figure 1, column 10, line 9, Base Station 28).

In regards to claims 1, 33 and 41 Bantz does not explicitly teach outputting, via wireless communications from the electronic device, a second connection request signal based on a connection setup with a second wireless communication device, when a response signal to the first connection request signal cannot be received; and establishing wireless communication between the electronic device and the second wireless communication device based on a first communication setup, when a response signal to the second connection request signal is received by the electronic device. In regards to claim 2, Bantz does not explicitly teach the connection setup with the first wireless communication device contains an identifier of the first wireless communication

device, and the connection setup with the second wireless communication device contains an identifier of the second wireless communication device

In regards to claims 1, 2, 33 and 41 Rypinski in the same field of endeavor teaches, the unregistered Station upon hearing a readable INVITATION-TO-REGISTER sends a REGISTER (104) message with a long address (an 8 octet field in which the address is 6 octets for LAN and 60 bits for telephony) and hears a PACKET-DATA-FRAME (003) with long address in response. The payload of that frame contains the assignment of a temporary short address (2 octets) to that Station. If there is no response, the Station tries again at the next opportunity on a different Access-point (column 12 lines 49-57).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Bantz's system by incorporating the method of retrying registration with different access points as taught by Rypinski. The motivation is that (as suggested by Rypinski, column 12 lines 42-48) stations just entering the system listen first for the INVITATION-TO-REGISTER (007) message from which they identify the system providing the infrastructure. The Station cannot know which is the strongest signal received or which site would provide it, though it can distinguish a usable from an unusable signal. So, it has to keep trying till it finds a usable access point.

In regards to claims 7-9 and 42 at least one the connection setup with the first wireless communication device, the connection setup with the second wireless communication device and the first/second/third communication setup stored in a storage device associated with the electronic device (figure 2, element 68 and column

7 lines 32-34, each mobile station stores in the data storage 68 of its transceiver

adapter 44 a set of four addressing parameters).

4.   Claims 3, 34, 36 and 43 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bantz in view of Rypinski in view of La Porta et al. (US PAT PUB

2002/0057657), hereinafter referred to as La Porta.

In regards to claims 3, 34, 36 and 43 Bantz in view of Rypinski teach sending

setup message for connection setup as described in the rejections of claims 1, 33 and

41 above.

In regards to claims 3, 34, 36 and 43 Bantz in view of Rypinski do not explicitly

teach the first communication setup contains IP address setup information of the

electronic device and communication application setup used for communication with

wireless communication device.

In regards to claims 3, 34, 36, 43 La Porta in the same field of endeavor teaches

the first communication setup contains IP address (page 8 section 0067, source ip

address) setup information of the electronic device and communication application

(page 8 section 0067, message type) setup used for communication with wireless

communication device (page 8 section 0067).

At the time of the invention it would have been obvious to a person of ordinary

skill in the art to modify Bantz in view of Rypinski's system by incorporating the method

of sending ip address and message type as taught by La Porta. The motivation is that in

a ip based communication system it is known in the art to send source ip address and message type with setup message as shown by La Porta (page 8 section 0067).

5.   Claims 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bantz in view of La Porta.

In regards to claims 13 and 18 Bantz teaches sending setup message for connection setup as described in the rejections of claim 11 above.

In regards to claims 13 and 18 Bantz does not explicitly teach the communication setup contains IP address setup information of the electronic device and communication application setup used for communication with wireless communication device

In regards to claim s 13, 18 La Porta in the same field of endeavor teaches the first communication setup contains IP address (page 8 section 0067, source ip address) setup information of the electronic device and communication application (page 8 section 0067, message type) setup used for communication with wireless communication device (page 8 section 0067).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Bantz's system by incorporating the method of sending ip address and message type as taught by La Porta. The motivation is that in a ip based communication system it is known in the art to send source ip address and message type with setup message as shown by La Porta (page 8 section 0067).

6.   Claims 5, 6, 10, 35 and 44 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bantz in view of Rypinski in view of Kumar et al. (US PAT 6507568),

hereinafter referred to as Kumar.

In regards to claims 5, 6, 10, 35 and 44 Bantz in view of Rypinski teach

connecting to an access point by sending setup message for connection setup as

described in the rejections of claims 1 , 31 and 41 above.

In regards to claim 5 Bantz in view of Rypinski do not explicitly teach outputting,

via wireless communications from the electronic device, the first connection request

signal based on the connection setup with the first wireless communication device when

a field strength of a wireless communication signal used in a wireless communication

with the second wireless communication device falls below a predetermined threshold

value; and establishing wireless communication between the electronic device and the

first wireless communication device based on a second communication setup, when the

response signal to the first connection request signal is received by the electronic

device. In regards to claim 6, Bantz in view of Rypinski do not explicitly teach outputting

via wireless communications from the electronic device, a third connection request

signal based on a connection setup with a third wireless communication device when a

field strength of a wireless communication signal used In a wireless communication with

the second wireless communication device falls below a predetermined threshold value;

and establishing wireless communication between the electronic device and the third

wireless communication device based on a third communication setup, when a

response signal to the third connection request signal is received by the electronic

device. In regards to claim 10, Bantz in view of Rypinski does not explicitly teach third communication setup is the same as the second communication setup. In regards to claim 35, Bantz in view of Rypinski do not explicitly teach outputting via wireless communications from the electronic device, a third connection request signal based on a third connection setup with a third wireless communication device when a field strength of a wireless communication signal used In a wireless communication with the second wireless communication device falls below a predetermined threshold value; and establishing wireless communication between the electronic device and the third wireless communication device based on a second communication setup. In regards to claim 44 Bantz in view of Rypinski do not explicitly teach, a third beacon frame being acquired when a field strength/predetermined criteria of a wireless communication signal used In a wireless communication with the second wireless communication device falls below a predetermined threshold value; and establishing wireless communication between the electronic device and the third wireless communication device based on a second communication setup.

In regards to claims 5, 6, 10, 35 and 44 Kumar in the same field of endeavor teaches while waiting for the channel assignment message, if the mobile station detects that the pilot of the initially-selected primary base station fades, the mobile station then performs a hard hand-off and selects another base station to communicate with (column 1, lines 55-59).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Bantz in view of Rypinski's system by incorporating the method

of hand-off as taught by Kumar. The motivation is that (as suggested by Kumar, column 1 lines 18-25) a mobile station monitors the received signal-to-noise ratios of pilot signals from a number of base stations. During call setup, the mobile station selects the base station with the strongest measured received pilot signal and attempts call setup communications with only the selected base station. Such method is well known in the art as suggested by Kumar.

In regards to claim 35 Bantz in view of Rypinski teach a controller (figure 2, microprocessor system).

7.   Claims 19, 20 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bantz in view of Kumar.

In regards to claim 19, Bantz teaches acquiring the first beacon frame via wireless communications (column 9 lines 25-27, reception of a header section 400); comparing the information of the first beacon frame with a second connection setup (column 9 lines 27-29, registering mobile station 8 checks, that the network identifier 466 carried in header section 400 matches the network identifier NETid stored in parameter 212); and establishing wireless communication with the first wireless communication device based on a second communication setup, when the information of the first beacon frame matches the second connection setup (column 9 line 58-67 and column 10 lines 1-4, following the base station selection step the registering mobile station locks into the selected base station frequency hopping pattern as described in function block 590 by listening again to randomly selected frequencies until it receives a

header section 400 from the selected base station. It locks into the selected base station frequency hopping pattern by storing in data storage 68 of transceiver adapter 44 the frequencies of the next four hops provided in field 468 of the header section 400. Next the registering mobile station stores the base station HDLC address 430 carried by the header section 400 in addressing parameter 214 and sends a registration request to the selected base station by using the protocol information provided by header section 400 concerning the duration of B and C intervals durations). In regards to claim 20, Bantz teaches acquiring the third beacon frame via wireless communications (column 9 lines 25-27, reception of a header section 400); comparing the information of the third beacon frame with a third connection setup (column 9 lines 27-29, registering mobile station 8 checks, that the network identifier 466 carried in header section 400 matches the network identifier NETid stored in parameter 212); and establishing wireless communication with the third wireless communication device based on a third communication setup, when the information of the third beacon frame matches the third connection setup (column 9 line 58-67 and column 10 lines 1-4, following the base station selection step the registering mobile station locks into the selected base station frequency hopping pattern as described in function block 590 by listening again to randomly selected frequencies until it receives a header section 400 from the selected base station. It locks into the selected base station frequency hopping pattern by storing in data storage 68 of transceiver adapter 44 the frequencies of the next four hops provided in field 468 of the header section 400. Next the registering mobile station stores the base station HDLC address 430 carried by the header section 400 in

addressing parameter 214 and sends a registration request to the selected base station by using the protocol information provided by header section 400 concerning the duration of B and C intervals durations).

In regards to claims 19 and 20 Bantz does not explicitly teach that the above steps happen when field strength of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value. In regards to claim 26 Bantz does not explicitly teach third communication setup is the same as the second communication setup.

In regards to claims 19, 20 and 26 Kumar in the same field of endeavor teaches while waiting for the channel assignment message, if the mobile station detects that the pilot of the initially-selected primary base station fades, the mobile station then performs a hard hand-off and selects another base station to communicate with (column 1, lines 55-59).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Bantz's system by incorporating the method of hand-off as taught by Kumar. The motivation is that (as suggested by Kumar, column 1 lines 18-25) a mobile station monitors the received signal-to-noise ratios of pilot signals from a number of base stations. During call setup, the mobile station selects the base station with the strongest measured received pilot signal and attempts call setup communications with only the selected base station. Such method is well known in the art as suggested by Kumar.

8.   Claims 4, 27, 37 and 45 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bantz in view of Bridgelall (US PAT 6895255).

        In regards to claims 27, 37 and 45 Bantz teaches communication setup

method/means for an electronic device (figure 1, column 4 line 42, mobile stations 6, 8,

10, 12, 14 and 16) having wireless communication interface (figure 1a element 42,

transceiver) employing wireless communications, comprising the steps of: acquiring a

first beacon frame (column 9 lines 25-27, reception of a header section 400) via

wireless communications; a processor (figure 2, microprocessor system) programmed

for comparing information of the first beacon frame with a first connection setup used to

establish connection with a first wireless communication device (column 9 lines 27-29,

registering mobile station 8 checks, that the network identifier 466 carried in header

section 400 matches the network identifier NETid stored in parameter 212); comparing

the information of the first beacon frame with connection setup used to establish

connection with a second wireless communication device when the information of the

first beacon frame does not match the first connection setup (column 9 lines 27-29,

registering mobile station 8 checks, that the network identifier 466 carried in header

section 400 matches the network identifier NETid stored in parameter 212); and

establishing wireless communication with the second wireless communication device

based on a first communication setup, when the information of the first beacon frame

matches the connection setup (column 9 line 58-67 and column 10 lines 1-4, following

the base station selection step the registering mobile station locks into the selected

base station frequency hopping pattern as described in function block 590 by listening again to randomly selected frequencies until it receives a header section 400 from the selected base station. It locks into the selected base station frequency hopping pattern by storing in data storage 68 of transceiver adapter 44 the frequencies of the next four hops provided in field 468 of the header section 400. Next the registering mobile station stores the base station HDLC address 430 carried by the header section 400 in addressing parameter 214 and sends a registration request to the selected base station by using the protocol information provided by header section 400 concerning the duration of B and C intervals durations). . In regards to claim 4, Bantz teaches a registration response being received from the access point (column 10, line 49, registration response).

In regards to claims 27, 37 and 45 Bantz does not explicitly teach having second connection setup for communication setup. In regards to claim 4, Bantz does not explicitly teach an authentication process is executed with the wireless communication device via wireless communications after the response.

In regards to claims 27, 37 and 45 Bridgelall in the same field of endeavor teaches the wireless local area network 100 shown in FIG. 3 includes a dual mode mobile unit 10 which is arranged to communicate with the access point 102 using the 802.11 standard and also to communicate with other units 108 using a second wireless communication standard, such as the Bluetooth standard. Dual mode mobile unit 10 may, for example, communicate with printer 106 using the Bluetooth standard. It may also communicate with the access point 102 using the 802.11 standard and with other

mobile unit 108 which is in a Bluetooth piconet 110 using the Bluetooth standard (column 3 lines 30-39). In regards to claim 4, Bridgelall teaches an authentication process is executed with the wireless communication device via wireless communications (inherent authentication within Bluetooth or 802.11).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Bantz's system by incorporating the method of having multiple connection setup capability and authentication capability as taught by Bridgelall. The motivation is that (as suggested by Bridgelall, column 6 lines 25-35) such configuration gives a mobile unit the ability to connect to diverse network environment easily making it robust. In regards to claim 4, the motivation is that authentication is a vital part for secure communication.

9.   Claims 28, 38 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bantz in view of Bridgelall in view of La Porta.

In regards to claims 28, 38 and 46 Bantz in view of Bridgelall teach sending setup message for connection setup as described in the rejections of claim 27 above.

In regards to claims 28, 38 and 46 Bantz in view of Bridgelall do not explicitly teach the first communication setup contains IP address setup information of the electronic device and communication application setup used for communication with wireless communication device.

In regards to claims 28, 38 and 46 La Porta in the same field of endeavor teaches the first communication setup contains IP address (page 8 section 0067,

source ip address) setup information of the electronic device and communication application (page 8 section 0067, message type) setup used for communication with wireless communication device (page 8 section 0067).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Bantz in view of Bridgelall's system by incorporating the method of sending ip address and message type as taught by La Porta. The motivation is that in a ip based communication system it is known in the art to send source ip address and message type with setup message as shown by La Porta (page 8 section 0067).

10.   Claims 29, 31, 39, 40, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bantz in view of Bridgelall in view of Kumar.

In regards to claims 39, 40, 47 and 48 Bantz in view of Bridgelall teach connecting to an access point by sending setup message for connection setup as described in the rejections of claims 37 and 45 above. In regards to claim 29, Bantz in view of Bridgelall teach acquiring the second beacon frame via wireless communications which is different from the first beacon frame (column 9 lines 25-27, reception of a header section 400); comparing the information of the second beacon frame with a first connection setup (column 9 lines 27-29, registering mobile station 8 checks, that the network identifier 466 carried in header section 400 matches the network identifier NETid stored in parameter 212); and establishing wireless communication with the first wireless communication device based on a second

communication setup, when the information of the second beacon frame matches the

first connection setup (column 9 line 58-67 and column 10 lines 1-4, following the base

station selection step the registering mobile station locks into the selected base station

frequency hopping pattern as described in function block 590 by listening again to

randomly selected frequencies until it receives a header section 400 from the selected

base station. It locks into the selected base station frequency hopping pattern by

storing in data storage 68 of transceiver adapter 44 the frequencies of the next four

hops provided in field 468 of the header section 400. Next the registering mobile station

stores the base station HDLC address 430 carried by the header section 400 in

addressing parameter 214 and sends a registration request to the selected base station

by using the protocol information provided by header section 400 concerning the

duration of B and C intervals durations). In regards to claim 31, Bantz Bridgelall teach

acquiring the second beacon frame which is different from the first beacon frame via

wireless communications (column 9 lines 25-27, reception of a header section 400);

comparing the information of the second beacon frame with a first connection setup

(column 9 lines 27-29, registering mobile station 8 checks, that the network identifier

466 carried in header section 400 matches the network identifier NETid stored in

parameter 212); and establishing wireless communication with the first wireless

communication device based on a second communication setup, when the information

of the second beacon frame matches the first connection setup (column 9 line 58-67

and column 10 lines 1-4, following the base station selection step the registering mobile

station locks into the selected base station frequency hopping pattern as described in

function block 590 by listening again to randomly selected frequencies until it receives a header section 400 from the selected base station. It locks into the selected base station frequency hopping pattern by storing in data storage 68 of transceiver adapter 44 the frequencies of the next four hops provided in field 468 of the header section 400. Next the registering mobile station stores the base station HDLC address 430 carried by the header section 400 in addressing parameter 214 and sends a registration request to the selected base station by using the protocol information provided by header section 400 concerning the duration of B and C intervals durations).

In regards to claims 39, 40, 47 and 48 Bantz in view of Bridgelall do not explicitly teach, a third beacon frame being acquired when a field strength/predetermined criteria of a wireless communication signal used In a wireless communication with the second wireless communication device falls below a predetermined threshold value; and establishing wireless communication between the electronic device and the third wireless communication device based on a second communication setup. In regards to claims 29 and 31 Bantz in view of Bridgelall do not explicitly teach that the above steps happen when a field strength/predetermined criteria of a wireless communication signal used in a wireless communication with the second wireless communication device falls below a predetermined threshold value

In regards to claims 29, 31, 39, 40, 47 and 48 Kumar in the same field of endeavor teaches while waiting for the channel assignment message, if the mobile station detects that the pilot of the initially-selected primary base station fades, the

mobile station then performs a hard hand-off and selects another base station to communicate with (column 1, lines 55-59).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Bantz in view of Bridgelall's system by incorporating the method of hand-off as taught by Kumar. The motivation is that (as suggested by Kumar, column 1 lines 18-25) in these systems, a mobile station monitors the received signal-to-noise ratios of pilot signals from a number of base stations. During call setup, the mobile station selects the base station with the strongest measured received pilot signal and attempts call setup communications with only the selected base station. Such method is well known in the art as suggested by Kumar.

In regards to claims 39 and 40 Bantz in view of Bridgelall teach a controller (figure 2, microprocessor system) and a processor (figure 2, microprocessor system).

Allowable Subject Matter

11.   Claims 30, 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Salman Ahmed whose telephone number is (571)272-8307. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on (571)272-3088. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

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Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit 2666

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